

As analyzed in the attached paper,¹¹⁹ MacAvoy was given only a small subset of long distance products, some of which are no longer offered to new customers, for his analysis of the whole industry. By working from a highly skewed set of products that account for only a small and unrepresentative part of the long distance market and by ignoring the existence of new products and promotions, MacAvoy has introduced substantial bias into his price-cost analysis.

Similarly, there are serious errors in MacAvoy's simplistic estimation of costs for each of the major carriers. Based on his erroneous analysis, MacAvoy improperly concludes that the price-cost margin is increasing and competition in the entire market is declining. Common sense would have brought us all to the right answer a lot more quickly: the long distance market exhibits robust competition. Any "benefit" that premature entry by Ameritech might introduce would be greatly exceeded by the predictable harm and inefficiencies.

One would think by now the BOCs would have tired of repeating their old but false premise that the long distance market does not perform competitively. The FCC's policies and findings of a competitive long distance market stem back three decades. No matter how esteemed the reputations of its consultants, the Ameritech submission cannot defeat the competition that can be observed daily by turning on the television, opening a newspaper, or more to the point, making a long distance call. It is simply

¹¹⁹ See Marybeth M. Banks, "The Flaws in Prof. Paul W. MacAvoy's Analysis Render His Conclusions Meaningless."

insulting for Ameritech to continue to insist on its Alice-in-Wonderland world in which local markets are competitive and long distance markets are not.

CONCLUSION

For the foregoing reasons, Ameritech's application must be denied.

Respectfully submitted,

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Dated: June 10, 1997

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**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the matter of)	
Application of Ameritech)	
Michigan Pursuant to Section)	CC Docket No. 97-137
271 of the Telecommunications)	
Act of 1996 to Provide In-Region)	
InterLATA Service)	
in Michigan)	

**AFFIDAVIT OF CARL SHAPIRO
ON BEHALF OF SPRINT**

I have been asked by Sprint to provide an economic and public-interest analysis of Ameritech's application to provide in-region long-distance service in Michigan. This is part of a broader project I am conducting for Sprint to develop a framework for assessing Section 271 applications generally, and to evaluate the conditions of local competition in a number of states where such applications are anticipated. My qualifications are described in the Appendix, which contains a copy of my curriculum vitae.

The overall framework I present here for evaluating Section 271 applications is based generally on my experience in antitrust and regulatory economics, along with my understanding of the provisions of the Telecommunications Act of 1996 (the "Act") and my experience in studying telephone markets for some fifteen years. My evaluation of the current conditions in Michigan is based largely on the information available in this docket from Ameritech and from other interested parties, on Michigan Public Service Commission (MPSC) Orders, and on discussions with Sprint personnel.

I. Summary of Testimony

My testimony covers two broad areas. First, I offer a general economic framework for evaluating Section 271 applications, including Ameritech's application to

provide in-region interLATA services in Michigan. My hope is that the Commission will find this framework useful in evaluating this and other Section 271 applications according to the public-interest standard in the Act. Second, drawing on Ameritech's application and the filings of other interested parties, I apply my framework to Michigan. In particular, I evaluate the current state of local exchange interconnection and local exchange competition in Michigan.

A. Economic Framework

In the general part of my analysis that presents an economic framework for assessing Section 271 applications, I conclude that interconnection agreements must be demonstrated to be working in practice on a commercial scale before checklist compliance can be regarded as economically meaningful, and in order to meet the public-interest standard for approving Section 271 applications.

There is widespread agreement that the public interest will be served if states and the FCC take advantage of the historic opportunity provided by the Act to ensure that local telephone markets are opened up to competition. Since these markets are currently monopolized, economics tells us introducing competition into them offers potentially large social gains. To open these markets will require ongoing, extensive, and detailed cooperation from incumbent local exchange carriers (ILECs). No monopolist lightly relinquishes its dominant position. Recognizing this, Congress provided a powerful incentive for Bell Operating Company (BOC) cooperation by providing conditions necessary for BOCs to enter interLATA markets.

It would be a mistake to relinquish the Section 271 lever until local markets are demonstrably open. If Section 271 authorization is granted before we are confident that the required BOC cooperation has indeed been forthcoming and will continue, the strong incentives for BOC cooperation created by the Section 271 process will be lost, and the emergence of local competition will be undermined. This situation would be difficult to rectify, since Section 271 approval would be virtually impossible to reverse. On the other hand, if Section 271 approval is deferred until interconnection has been proven to work, such approval can then be granted quickly once local competition is reliably enabled.

Thus, uncertainty favors erring on the side of caution and withholding approval until meaningful interconnection has been clearly demonstrated.

Premature approval of Section 271 applications is especially dangerous since competitive local exchange carriers (CLECs) are so reliant on BOCs to gain even a foothold in local markets, and since the required cooperation is so multifaceted and complex. Because of these complexities, regulatory oversight will necessarily be highly imperfect, especially until procedures have been ironed out and interconnection has been proven to work in practice. To approve Ameritech Michigan's Section 271 application before the highly intricate and complex interconnection relationships between Ameritech Michigan and CLECs have been demonstrated to work runs the risk of prematurely eliminating the major incentive for Ameritech Michigan to cooperate with its would-be rivals.

B. Michigan Application

Applying these principles to Ameritech's Michigan application shows clearly that approval of this application by the Commission would be premature.

First, the record shows clearly that local exchange competition in Michigan remains a prospect, not a reality. The Section 271 authorization process should be used to help turn that prospect into reality, not to treat the prospect as if it already were reality and thereby put the prospect of competition in jeopardy.

Given the *de minimis* state of local competition in Michigan, in-region long-distance authorization in Michigan is not in the public interest absent a clear showing that entry barriers into local exchange markets relating to interconnection with Ameritech Michigan truly have been eliminated. Instead, the record reveals that a large number of crucial interconnection issues remain unresolved in Michigan. For example, numerous parties including Sprint have stated that Ameritech's electronic interfaces associated with their ordering, provisioning, and maintenance systems are not yet fully tested, much less operational. Indeed, the one carrier in Michigan serving residential customers that Ameritech characterizes as facilities-based, Brooks Fiber, stated in a December 30, 1996 letter to the Justice Department's Antitrust Division that it had no electronic interface with

Ameritech for billing purposes or to place orders for number portability. More recently, Brooks Fiber has identified significant shortcomings in Ameritech's OSS interfaces.¹

Detailing the specific interconnection items in dispute, and Ameritech's shortcomings in providing these items, is beyond the scope of my testimony, but the record leaves no doubt in my mind that myriad important interconnection issues, both technical and economic, remain unresolved. Even with the best of intentions by Ameritech, the fact remains that Ameritech's economic incentives are to protect its monopoly, not to enable local competition. Withholding Section 271 authorization until interconnection has been proven to work in practice on a commercial scale is in the public interest.

I conclude that Ameritech has not yet "fully implemented" the competitive checklist in any economically meaningful manner that reliably eliminates interconnection-related entry barriers to the provision of local exchange service in Michigan. Furthermore, since the conditions of local competition in Michigan are so uncertain and in such flux, uncertainty favors deferring in-region long-distance authorization for Ameritech Michigan until the Commission can assert with confidence that local entry through a variety of business strategies has truly been enabled through Ameritech's interconnection provisions.

To approve Ameritech's application at this time would not only remove much of the pressure on Ameritech to truly cooperate and open up its local exchange markets, but would further send a signal to other RBOCs that they can gain in-region long-distance authority without truly opening up their local markets to competition. This would be contrary to the public interest.

II. Economic Objectives in Section 271 Applications: General Principles

There are three major economic and policy objectives that must be balanced in evaluating BOC Section 271 applications to offer in-region long-distance service. Ultimately, determining whether in-region interLATA authorization for Ameritech Michigan would be consistent with the public interest, convenience, and necessity turns on

¹ See Brooks Fiber's filings of April 15th and April 25th before the Michigan Public Service Commission, "Response of Brooks Fiber Communications of Michigan to Ameritech Michigan's Submission of Additional Information."

the impact of authorization in these three areas. These factors are: (1) expansion of consumer choice in local markets; (2) impact of authorization on competition in interLATA markets; and (3) leveling the playing field as markets merge.

A. Opening Local Exchange Markets to Competition

My testimony focuses on the first factor, namely the impact on local exchange competition in Michigan of approving or denying Ameritech's application. The 1996 Telecommunications Act provides an historic chance to open up local exchange markets, which are the most significant remaining bottleneck monopolies in the telecommunications sector. If our experience in long-distance markets is any guide, the introduction of competition into local exchange markets will generate substantial consumer benefits in the form of new services and lower prices, once a variety of thorny interconnection issues are worked out.

Introducing competition into local exchange service will require the cooperation of the incumbent local exchange carriers (ILECs). This cooperation is unlikely to be voluntary; no monopolist, regulated or not, is keen to relinquish its dominant position. Furthermore, direct regulation of Ameritech Michigan's conduct in and of itself is a highly imperfect means of insuring viable local competition — there is too much scope for Ameritech Michigan to get around the spirit if not the letter of the interconnection rules, and to impose its own interpretation of its interconnection duties, at least until many aspects of interconnection are tested in practice and understood by competitive local exchange carriers as well as regulators.

So long as Section 271 authorization remains pending, Ameritech has incentives to fix problems with CLECs in a hurry; once Section 271 authorization is granted, Ameritech will have fewer incentives to resolve quickly disputes over the myriad details of interconnection, although CLECs will remain heavily dependent upon Ameritech. This highly asymmetric situation would not be conducive to resolving the many interconnection issues that are vital to making local exchange competition a reality.

The implication of this analysis is that the path to genuine local competition will be far smoother if Ameritech Michigan, and the other BOCs, are given incentives to

cooperate to make local competition truly possible. Hopefully, such incentives will partially offset their natural economic incentives to protect their monopoly positions. By insisting, as a condition for entry into in-region interexchange service, that Ameritech Michigan demonstrate that it has put in place the conditions necessary for local competition to flourish, in practice and not just on paper, the Section 271 process can be used to induce cooperation. This *quid pro quo* is central to the development of local exchange competition.

B. Impact on Competition in Long-Distance Markets

Long-distance entry by Ameritech Michigan is not just a reward for providing meaningful interconnection with local rivals; it has direct implications for long-distance markets.

If Ameritech Michigan can be prevented from misusing its bottleneck local monopoly to disadvantage its long-distance rivals, then permitting Ameritech Michigan to enter the long-distance market will make that market more competitive. One reason to insist that local competition has truly been enabled before granting Section 271 authorization is to reduce the dangers of such misuse.

In any overall balancing of impacts on local and long-distance markets, it is important to remember that the long-distance market in the U.S. is currently far more competitive than are local exchange markets served by Ameritech Michigan. On this basis, the incremental benefits of entry into long distance are very likely to be smaller than the corresponding benefits from entry into local exchange.

Three considerations limit any benefits to consumers in long-distance markets from Ameritech Michigan's entry into those markets. First, there is the danger that Ameritech Michigan will use its bottleneck local monopoly to reduce competition in long distance. Second, the benefits from adding another competitor to the long-distance market are muted in comparison with adding a competitor to a monopolized market. Third, to the extent that Ameritech Michigan is a reseller of long-distance services rather than a facilities-based competitor, its impact on long-distance markets is less pronounced.

If regulation is ineffective in preventing discrimination against rival interexchange carriers, BOC entry into long distance can harm consumers in interexchange markets. Discrimination is especially harmful to consumer welfare and the public interest because it lowers the quality of service that interexchange rivals can provide to their customers, with little or no offsetting cost savings. Economists widely agree that such quality degradation is even more harmful to the public interest than conventional monopoly overcharges with their associated deadweight losses.

Of course, state regulatory commissions like the Michigan Public Service Commission will attempt to prevent discrimination they can detect, and Congress has provided certain safeguards, including the structural safeguards in Section 272 of the Act, to reduce the dangers of discrimination. However, such regulations are necessarily imperfect, no matter how energetic and foresightful the regulators, so the prospect of discrimination cannot be discounted.

The ongoing danger of discrimination has three implications: (1) the Commission should factor in this danger in evaluating the net benefit or harm to consumers in long-distance markets of Ameritech's entry into those markets; (2) if and when Ameritech is granted Section 271 authority to provide in-region long-distance service, the Commission and the MPSC will have to be vigilant to prevent discrimination, act swiftly in response to complaints about discrimination, and respond forcefully when they detect discrimination; and (3) since the danger of discrimination diminishes as CLECs gain greater presence in local markets, protecting competition in long-distance markets provides yet another reason for the Commission to insist that local competition truly be enabled before approving any Section 271 application of Ameritech Michigan.

Similarly, to the extent that regulation is unable to prevent cross-subsidization of long-distance customers by local exchange customers, BOC entry into long-distance markets will actually harm local exchange customers, who will be forced to subsidize long-distance calling. Such cross-subsidies, in addition to distorting competition in interexchange markets, amount to regulatory evasion and are contrary to the public interest.

C. Bundling Parity

There appears to be an industry consensus that many consumers will value the ability to purchase a wide range of services -- such as local, long distance, and wireless -- from a single vendor. There seems little doubt that many industry participants are planning to market bundles of services. I anticipate that the marketing of bundles of telecommunications services to heavy telecommunications users will be especially intense.

As we look ahead to wide-ranging competition and converging markets, firms that are unable to offer key pieces of attractive bundles will be at a competitive disadvantage. Therefore, parity in the ability to bundle services will be important to full competition in the future.

Other things equal, the public interest militates against giving one firm or a group of firms a significant head start in offering bundled services, especially if those firms can rapidly gain market share by marketing the bundled services. The recent experiences of Southern New England Telecommunications Corporation (SNET) and GTE demonstrate that entry into interLATA markets by ILECs can be achieved swiftly.² In contrast, significant competition in local exchange markets remains unproven, in Michigan and elsewhere.

My recommended approach to Section 271 applications is consistent with the public-interest objective of promoting bundling parity. If the Commission concludes that Bell Companies can rapidly and reliably enter in-region long-distance markets once authorized to do so, and if the Commission concludes that there is far greater uncertainty about the ability of CLECs to effectively offer local service, at least until a myriad of details involving interconnection are worked out, the goal of a "level playing field" as markets converge calls for denying in-region authorization until local competition has truly

² At SNET's annual meeting in May 1996, SNET's Chairman and CEO Daniel Miglio cited the phenomenal growth in SNET's interstate long distance market share, stating, "In two short years, we have built a new \$80 million revenue stream with a lot of opportunity to grow." During this period, SNET enjoyed ten consecutive quarters of earnings growth and a steadily rising stock price. Merrill Lynch has reported that SNET's long distance subsidiary, SNET America, captured 25% of SNET's local customers within two years of entry, despite aggressive competition from AT&T. Along similar lines, it has been reported that GTE has turned more than one million of its local customers into long-distance clients, siphoning business from AT&T and MCI and it is signing up new customers at the rate of more than 6,000 per day. (Wall St. J. Nov. 5, 1996; Communications Today, April 16, 1997).

been enabled, and then promptly granting such authorization (assuming the other conditions of the Act are also met by the application).

The public-interest goal of bundling parity provides one reason to defer granting Section 271 approval until access charges have been reformed. So long as access charges remain well above incremental costs, Ameritech will have a significant artificial cost advantage over other interexchange carriers in serving incremental interexchange business. In seeking business that adds to total long-distance calling, Ameritech will account for the true incremental cost of providing access for an additional minute of long-distance calling. In contrast, all other carriers seeking that same business must include in their costs the higher access charges they owe to Ameritech when they provide an additional long-distance minute. This logic is not altered by structural separation and imputation requirements.

D. Uncertainty Favors Delay

In balancing the three economic objectives I described earlier, it is important to remember that uncertainty favors deferring Section 271 authority until we can be confident that local competition has truly been enabled.

Once approval has been granted, it will be nearly impossible to rescind as a practical matter. On the other hand, if approval is denied, the BOC can put in another application as soon as conditions have changed to warrant approval knowing it will receive a response within 90 days. The Commission should *not* regard its decision in response to Section 271 applications such as Ameritech's current application in Michigan as a once-and-for-all choice of whether to authorize Ameritech to provide in-region long-distance services. Rather, the Commission should ask whether the public interest is better served by delaying approval until additional conditions are met.

III. Local Exchange Competition: General Principles

I turn now to apply the economic and public-interest framework described above to Ameritech's Michigan application, focusing largely on my first factor -- the goal of opening local exchange markets to competition.

The key question in my analysis is this: Has Ameritech taken the necessary steps to enable genuine local exchange competition to flourish? If not, approval of Ameritech's application will predictably and adversely affect progress towards true local exchange competition, contrary to the public interest.

In assessing current and prospective local-exchange competition, two distinctions are crucial. First, one must distinguish *actual* competition from *potential* competition. Second, one must distinguish CLECs based on their entry strategies and based on their assets: facilities-based competition is qualitatively different from competition based on leased elements, which in turn differs from purely resale competition. Applying this tripartite division is complicated by the fact that given CLECs can and will adopt different approaches in providing services to local-exchange customers, both across geographic regions and across time.

A. Actual vs. Potential Competition

By far the best proof of the feasibility of local exchange competition is the actual presence of significant facilities-based local competitors, i.e., actual competition over independent facilities. The more widespread is local competition, the more it takes place over facilities outside the control of the ILEC, and the greater the number of actual CLECs, the more confident we could be that conditions are truly conducive to entry and expansion by CLECs.

Actual competition can in principle be measured through market shares, capacity levels, and the like. Having said this, I am keenly aware that the Act does not require any minimum market share for CLECs before in-region authorization can be granted. Indeed, to do so would mute the Bell Company's incentives to compete aggressively to retain market share in the face of new entry.

In the light of this fact, and given the very limited state of actual local competition in Michigan today, my analysis necessarily focuses on the prospects for effective local competition in the near future. In significant part, this involves an assessment of the remaining entry barriers into local exchange markets in Michigan, and the extent to which Ameritech can affect the height of the remaining barriers. In economic terms, the

prospects for effective local competition in the near future hinge on whether the barriers to entry into local markets in Michigan, or at least those barriers associated with interconnection with Ameritech Michigan, have truly been substantially eliminated. I find that they have not.

B. The Importance of Facilities-Based Competition

Whether looking at actual or potential competition in local-exchange markets, facilities-based competition is especially important. CLECs with their own facilities have made substantial sunk investments to serve the market, and are thus committed to an ongoing market presence. Facilities-based competition also is superior to resale competition or leasing of unbundled networked elements because it represents far greater competitor independence of the ILEC. Ultimately, for regulation to wither away and be replaced by competition will require the presence of strong, facilities-based competitors to Ameritech Michigan. Investments in alternative local loop facilities would be especially significant, as these facilities represent a lasting commitment to the local market. Congress expected these investments would be made, and repeatedly gave the example of cable facilities.

Facilities-based competitors also represent alternative sources of access services. Resellers do not serve this function. Widespread competition in the provision of access will help insure that interexchange markets remain competitive after BOC entry.

Competition based on the leasing of network elements is not nearly as significant as true facilities-based competition. I say this with full recognition that the Commission may be prepared to “count” unbundled network elements as “facilities” for the purposes of assessing whether a carrier is “facilities-based,” under Section 271. Even if the Commission adopted this approach to defining “facilities-based carriers,” however, this need not imply that unbundled network elements are equivalent to independently-owned facilities *for the purposes of a public-interest assessment*. For the purposes of antitrust analysis, i.e., assessing the state of competition, it has long been recognized that firms who rely on their competitors for critical inputs simply are not as strong an independent competitive force as those who obtain their inputs from other sources. A CLEC who is

leasing elements from the incumbent local exchange carrier clearly remains heavily reliant on the incumbent carrier. In addition, the necessary sunk investments and thus the CLEC's commitment to the market associated with leasing network elements may be minimal and in any event are far lower than those required of a CLEC building its own loop plant.

Still, leased elements are better than resale in terms of offering competition to the ILEC. First, CLECs who are leasing network elements can offer competition along a number of dimensions that resellers cannot. Second, resale rates are not based on the underlying costs of the facilities, so resale competition does relatively little to drive retail rates down towards cost.

I would hope that all parties can agree that resale, while offering valuable competition over some aspects of service (such as marketing, billing, or customer service), is inherently limited and less meaningful than competition based on unbundled network elements. Ameritech's experts, Professors Harris and Teece, in their affidavit on behalf of Ameritech Michigan, appear to agree with this, stating that leased unbundled elements "are clearly distinct from resale of services over the incumbent's facilities" for the purposes of competitive assessment. (Harris and Teece, p. 14, footnote #17)

Professors Harris and Teece, after characterizing a CLEC's choice between investing in facilities and leasing elements as a "make versus buy" decision, state: "for purposes of competitive assessment the leasing of network elements is economically equivalent to self-supply: as a practical matter, competitive facilities necessarily must include those that the competitor controls through supply contracts as well as those it controls through ownership rights." (p. 14) I have no quarrel with their discussion of make-versus-buy decisions, which is standard fare for MBA students, who might discuss IBM's decision to outsource various components of its PC, the example cited by Harris and Teece. However, I must respectfully disagree with their conclusion regarding competitive assessment.

For the purposes of competitive assessment, a key issue is whether one firm is dependent upon its *competitors* for key inputs. Clearly, CLECs who are leasing elements from Ameritech remain heavily dependent upon Ameritech to provide service, contractual

and regulatory protections notwithstanding. In Harris and Teece's example, IBM did not source its key components from Apple Computer. And the Justice Department routinely recognizes in its merger analysis that firms dependent upon their rivals for key inputs, e.g., through a supply agreement designed to fix an anti-competitive problem associated with an acquisition, typically are not as strong a competitive force as those who are truly independent.

Competition from firms who rely upon a rival for a key input, and whose basic ability to offer services is dependent upon contractual rights imposed unwillingly on a direct rival, are generally not "economically equivalent" to fully independent rivals.

C. DOJ "Irreversibly Opened" Standard

My approach is very consistent with that advocated by the Department of Justice in its recent filing regarding SBC's 271 application in Oklahoma.³ There, the Department states that, in evaluating the public-interest aspect of 271 applications, it will seek "to determine whether the BOC's local markets have been irreversibly opened to competition." (page vi) I have discussed here how to operationalize this approach using economic evidence and economic methods.

The key point is that interconnection agreements on paper are insufficient to insure that local markets have truly been opened; to the extent that they open up the local market, this opening can be "reversed" by subsequent foot-dragging on the part of the incumbent LEC. In contrast, once interconnection agreements have been proven to work on a commercial scale, it will be much harder for Ameritech to slow down CLEC entry or expansion, either through lack of operational readiness or by manipulating the operational terms and conditions of interconnection to protect its monopoly.

My emphasis on the sunk costs made by CLECs also is consonant with the DOJ approach. Indeed, the economic concept of sunk costs embodies the very notion of irreversibility: a sunk cost is one that cannot be recovered. Once CLECs make substantial sunk investments to serve local markets in Michigan, they will be in the market for the

³ "Evaluation of the United States Department of Justice," in CC Docket No. 97-121, filed May 16, 1997.

long haul (although, as I noted above, their sunk investments will remain captive to Ameritech unless and until interconnection terms and conditions are fully worked out and operational).

IV. Current Local Competition in Michigan is *De Minimis*

As I recognized above, significant actual local competition would be the most convincing demonstration that local markets are indeed open. Such competition has not yet arrived, and I fear it will be delayed by premature Section 271 approval.

A. Market Shares

By conventional market-share measures, Ameritech maintains a dominant monopoly position in the provision of local exchange service in Michigan. Although Ameritech does not appear to dispute this statement, it is easy to lose sight of this simple fact. For example, Ameritech's distinguished experts, Professors Harris and Teece, place considerable emphasis on the *rates of growth* of such measures as unbundled loops and numbers ported (Harris and Teece, Table III.1). However, the fact remains that 21,321 unbundled loops in all of Michigan (as of March 1997) is a drop in the bucket out of nearly five million access lines in the Ameritech Michigan service region. Ameritech continues to serve over 99% of all access lines in its territory. Similarly, CLECs offer service over only six end office switches (Harris and Teece, Table III.6), in comparison with 442 Ameritech switches in Michigan.

Even in the few areas served by CLECs, Ameritech maintains a dominant market share. According to the testimony of Michael Starkey on behalf of AT&T, Ameritech serves nearly 99% of the access lines in the Grand Rapids LATA, where Brooks Fiber is an active CLEC.

B. Geographic Scope of CLEC Service

The four CLECs in Michigan that Professors Harris and Teece characterize as "facilities-based," Brooks Fiber, MCImetro, MFS/WorldCom, and TCG, collectively and individually serve a very limited geographic region within Michigan. According to Harris and Teece (Table III.6, p. 50), Brooks Fiber has some 300 miles of fiber in the Grand

Rapids area with switches in Grand Rapids, Lansing, and Traverse.⁴ MCImetro and TCG have fiber and switches only in the Detroit area, and MFS/WorldCom has fiber in the Detroit area with switches in Detroit. In assessing the significance of these facilities, it is important to remember that they are used for access as well as exchange services; indeed, a key source for the Harris and Teece Table is entitled "CAP/CLEC Network Descriptions."

C. Service to Residential Customers is Very Limited

CLEC service to residential customers in Michigan is especially limited. MFS currently provides no service to residential customers, and Ameritech states that it is unaware whether MFS's or TCG's customers in Michigan subscribe to residential service. (Ameritech Brief, p. 7) Evidently, approximately 40% of Brooks Fiber's customers are residential, with Brooks offering residential service to customers who are located nearby to its facilities.⁵ Yet, according to a March 7, 1997 filing by Brooks Fiber to the MPSC, "[s]ome 90% of Brooks' residential customers... are served using unbundled loops supplied by Ameritech Michigan. Everyone of these unbundled loops is 100% dependent on facilities owned by Ameritech Michigan."⁶

V. Assessing Potential Local Competition in Michigan

Ameritech's application relies heavily on the proposition that local exchange markets in Michigan are currently open to competition. Ameritech states "the local exchange services business in Michigan is open to competition and that powerful competing providers are entering that business and expanding their presence at a rapid pace." (Ameritech Brief, p. 74)

I simply do not find support for this statement in the Michigan record. Certainly, progress is being made in Michigan toward the eventual opening up of local markets. The two interconnection agreements approved by the Michigan Public Service Commission

⁴ Testimony by Ameritech witness Dunny (CC Docket No. 97-1) indicated that Brooks Fiber's switches in Lansing and Traverse are not yet operational.

⁵ As reported on Brooks Fiber web page.

⁶ Brooks Fiber Motion to Reorder and/or reconsider its comments in FCC Docket No. 97, U-11104, March 7, 1997.

(MPSC) on April 4, 1997, between Ameritech and AT&T and between Ameritech and Sprint, on top of other approved agreements with MFS, Brooks Fiber, TCG, USN, Winstar, and Airtouch, certainly represent an additional step towards local competition. Clearly, many of these CLECs have *plans* to enter local exchange markets in Michigan. However, especially in a market with virtually no actual competition, listing potential entrants' hopes, wishes, and plans, and pointing out that entry barriers are not as high as they used to be, is a far cry from directly assessing the significance of the remaining entry barriers and finding that they are low. I am concerned that granting Ameritech in-region long-distance authorization prematurely will slow down the process of dismantling those entry barriers.

In this section I discuss the economic principles by which potential competition in local exchange markets can be assessed, evaluate whether local competition in Michigan is yet imminent, and identify remaining entry barriers that will be lowered only through Ameritech's ongoing cooperation.

A. General Principles: Is Competition Enabled?

I recognize that, at some point, the competitive checklist may be fully implemented in Michigan, and interconnection-related entry barriers in local markets in Michigan may be largely eliminated, even if full competition in local exchange markets has not yet arrived. I recognize as well that full competition is not the applicable legal standard for a Section 271 application. However, from a public-interest perspective, in order to be confident that local markets are indeed open, we must see some actual competitors with their own facilities, we must see a variety of interconnection arrangements working on a commercial scale, we must be convinced that additional entry is imminent, and we must be confident that the incumbent LEC cannot prevent these entrants from competing effectively.⁷

⁷ An exception to this statement would arise in a market or state in which no CLECs would find it profitable to enter, even with the removal of barriers to entry associated with the terms and conditions of interconnection. In that situation, a lack of competitive entry would not be indicative of remaining obstacles to interconnection. Of course, one would have to more fully assess such a situation, as Section 271 authorization might still be inappropriate under these conditions.

Given the competitive pressure in the industry to offer broader bundles of telecommunications services to customers, a lack of significant entry into local exchange markets suggests strongly that the terms and conditions of interconnection are not yet conducive to that entry.

One important indicator of imminent competition in local exchange markets is the expenditure of significant non-recoverable (sunk) investments by CLECs. Such investments constitute a vote of confidence that competition is feasible, by those with a direct financial stake in making competition real. For precisely this reason, mere announcements of plans to offer services are far less reliable than actual sunk expenditures. Yet the Ameritech witnesses appear to place considerable weight on such announcements in asserting that competition is imminent.

Having acknowledged the economic importance of sunk investments, I would like to emphasize that the presence of some sunk investments by some carriers does not itself suffice to demonstrate that local markets have been opened to competition, or that these investments will lead to significant competition, for two reasons.

First, it would be contrary to the public interest for these investments to be stranded or devalued by problems implementing interconnection with Ameritech. Any sunk investments that have been made will remain at risk until it has been proven that the entrants can indeed rely on Ameritech Michigan to provide critical inputs in a non-discriminatory manner. Such problems are less likely to arise if Ameritech is permitted to enter long-distance markets only after the required aspects of interconnection have been proven to work in practice on a commercial scale. By deferring Section 271 authorization until Ameritech has demonstrated its cooperation, local competition is enhanced, entrants' investments are partially protected from exclusionary tactics by Ameritech, and further investments by CLECs are encouraged.

Second, not all sunk expenditures to provide local telephone services are specific to those services. Investments in facilities that also jointly provide access services and exchange services are less meaningful in inferring that entry barriers into local exchange markets have been lowered than investments in fully specific assets. In other words, when evaluating the significance of sunk investments for assessing market participants' beliefs

about the feasibility of local exchange competition, it is important to account for the entire range of services provided by those investments. Due to the presence of economies of scope in the provision of access and exchange services, some investments in local facilities may be recoverable through provision of access services, and not reliant on the full range of interconnection necessary to a CLEC.

In addition to examining the state of actual competition, and the tangible commitments made to the market by entrants, as evidenced by significant sunk investments, we can directly evaluate the conditions of entry in an attempt to gauge the height of entry barriers and to determine whether potential competition is truly feasible. By identifying entry barriers and assessing their significance, we can try to determine whether a number of potential CLECs can reliably and easily offer local exchange service to residential and business customers across Michigan, and whether competition has effectively been enabled.

In local exchange markets, barriers to growth may be at least as important as barriers to entry. By “barriers to growth,” sometimes referred to in the literature as “barriers to mobility,” I mean market conditions that impede the ability of market participants to compete effectively and add new customers or services. After all, even if a firm has made some investments in the local exchange market and entered that market, its ability to compete and attract customers may still be limited by Ameritech’s conduct, e.g., if Ameritech provides the firm with inferior repair and maintenance services or if Ameritech has limited ability to process new orders or to provide billing information.

Entry and growth are not reliably enabled until Ameritech Michigan actually provides CLECs with interconnection on terms that have been proven to work in practice, and until we are sure that other entrants can replicate these proven arrangements.

Due to the complexity and importance of interconnecting in various ways with the ILEC, we cannot be confident that entry truly has been enabled, and thus a would-be CLEC faces additional risk, until interconnection has been shown to work on a commercial scale, encompassing a range of interconnection issues that are meaningful to CLECs with diverse entry strategies. In demonstrating that interconnection in its myriad details really works, an interconnection agreement with a CLEC covering a large

geographic area is more convincing and more meaningful than an agreement with a highly localized CLEC. Likewise, to give a specific example of one dimension of “interconnection,” an interconnection agreement specifying terms for customer billing is more meaningful, in terms of assessing the height of entry barriers, the greater the volume and variety of customer billing taking place under the agreement. For Ameritech merely to announce that it is offering, or will soon offer, certain electronic interfaces for billing, falls far short of such operational readiness and commercial experience.

Whatever the scale, a working agreement that has been put into practice, i.e., pursuant to which a CLEC is actually providing service, is far more meaningful than a paper agreement that has yet to be tested commercially.

In economic terms, a key issue in assessing whether a BOC truly is complying with the competitive checklist is whether the interconnection terms and conditions offered by the BOC are sufficient to lower entry barriers and enable genuine local exchange competition. The competitive checklist has been complied with in a manner that is economically meaningful for consumers if and only if facilities-based competition is a reality and the conditions of interconnection are reliably in place to enable extensive additional entry to occur to reduce the monopoly power of the BOC.

In order for entry to be feasible, and for CLECs to be willing to make the additional necessary investments to provide genuine competition, potential entrants need to be confident that workable systems are in place on a commercially viable scale. Thus, checklist compliance has to mean more than having something on paper.

If checklist compliance is to be economically meaningful in terms of enabling local competition, the details must be worked out in practice and agreements must be fully implemented. There are a great many details that really matter for the commercial viability of CLECs. For many of the terms of interconnection, the interests of Ameritech Michigan and CLECs are directly opposed. All of this implies that it is highly desirable to provide Ameritech Michigan with ongoing incentives to cooperate, in the form of withholding the long-distance entry “prize,” until such cooperation has been definitely elicited and shown to truly enable entry.

Interconnection arrangements that are ambiguous, inadequate, or incomplete for CLECs' needs will hinder local competition. Absent reliable, working interconnection arrangements, CLECs will be wary of making the substantial sunk investments necessary to participate fully in local markets, and the investments CLECs do make will remain at risk. This is certainly true for facilities investments, which are largely non-recoverable in the event that interconnection problems arise, and thus will depreciate in value if the terms or conditions of interconnection fail to achieve operational parity between CLECs and the ILEC. Marketing expenses can also be very significant, and will largely go to waste if the CLEC is unable to provide high-quality service in a timely fashion once demand is stimulated by the promotional campaign. Worse yet, Sprint's brand name will be at risk if Sprint markets a local service of poor quality due to interconnection difficulties of various types. Were Sprint to introduce local service with quality problems due to interconnection, Sprint could lose valuable goodwill not only in those local markets, but nationwide.

In addition, Sprint, like other CLECs, will have to make substantial investments in back-office systems to support its entry into local markets. These investments will also remain at risk until the details of interconnection have been worked out satisfactorily.

B. Entry Barriers into Local Exchange Markets in Michigan

1. Evidence of Sunk Investments

Investments that are sunk and specific to the provision of local exchange service provide some indication of future competition. How significant are such investments in Michigan? Certainly there are some investments in Michigan that fall into this category, including some portion of the expenditures made by Brooks Fiber, MFS, MCImetro, and TCG to install their six switches in Michigan. These are a start, but hardly an indication that widespread or significant competition is imminent.

I understand that AT&T has announced its intention to provide local exchange service in Michigan by re-selling their services through Ameritech. I would expect that the pace and nature of AT&T's investments will depend upon when and whether Ameritech is compelled to offer commercially workable interconnection to AT&T. AT&T spokesman

Tom Hopkins described AT&T's plans in Michigan: "'We're going to start very slowly.'"⁸ This strikes me as a prudent approach until the interconnection needed by AT&T is proven to work in practice.

2. Risks Associated with Local Entry Generally

Sprint, like AT&T and MCI, has every intention of entering Michigan local exchange markets, first as a reseller and later with its own facilities. I am told that Sprint has yet to make any investments to offer local services in Michigan, in no small part because of the great uncertainty that remains regarding the interconnection terms and conditions that will be available to Sprint in Michigan. Much of the uncertainty will be resolved only once Ameritech and CLECs gain actual real-world experience with interconnection in Michigan. Betty Reeves of Sprint indicates that several aspects of Ameritech's OSS remain inadequate for Sprint to truly launch service on a resale basis (see below for more details). The fact that Ameritech and Sprint have an approved interconnection agreement does not magically imply that Ameritech is operationally ready to offer the required components of interconnection to Sprint or other CLECs. The agreement is a prelude to competition, but does not itself indicate that competition has been enabled.

Until CLECs can be confident that they will obtain interconnection on commercially acceptable terms that will allow them to achieve operational parity with Ameritech Michigan, entrants surely attribute considerable interconnection risk to any sunk investments they might contemplate. This "risk premium" can serve only to delay or deter entry and the advent of competition. This is especially true for a company like Sprint, with a valuable brand name that could be put at risk if service quality is degraded due to interconnection problems. I would expect Sprint, AT&T, and MCI to be extremely wary of offering service under their brand names unless and until they can insure service quality -- from the pre-ordering of services to the provisioning of repair -- on par with Ameritech Michigan. To do otherwise would put their brand names at risk in Michigan, and potentially place them at a major disadvantage for years to come in selling bundles of

⁸ "AT&T enters local phone market," *The Grand Rapids Press*, March 11, 1997, Page A1.

services in competition with Ameritech. As noted below, for a number of aspects of interconnection it is currently impossible for CLECs to insure that they are receiving treatment on par with that available to Ameritech itself.

A related risk to a would-be entrant into local exchange of introducing service before operational parity has been achieved and tested is the risk that the marketing expenses associated with a rollout of service will be wasted. These are clearly non-recoverable investments. Worse yet, as just noted, a failed marketing campaign to offer local service will actually make it more difficult to offer those services in the future.

3. Unresolved Interconnection Issues in Michigan

The details of interconnection must be worked out before concluding that competition is enabled; when it comes to interconnection, the devil truly is in the details. The myriad aspects of interconnection cannot be left for later, because they are so crucial to CLECs' abilities to compete effectively. Many aspects of interconnection that remain unresolved have significant implications for either CLECs' costs or the quality of their service, and thus for the attractiveness of entry into local markets.

If CLECs were providing services on a commercial scale in a variety of settings in Michigan, we could be confident that interconnection was working (although the need for ongoing regulation will not soon end). In fact, however, CLECs collectively serve very few access lines in Michigan, and the interconnection agreements that are operational are far narrower than will be required to enable competition. Under these circumstances, and given the obvious attractiveness of the Michigan market to a number of carriers, including the larger interexchange carriers, I believe there should be a presumption that the terms and conditions of interconnection either (a) fail to provide parity between Ameritech and CLECs, or (b) simply have not been available long enough to be tested and used by CLECs. In the former case, which I believe currently applies in Michigan, interconnection is either not yet fully implemented or is discriminatory, and Section 271 approval is inappropriate. In the latter case, there would still be a strong argument for waiting until interconnection has been proven to work before granting Ameritech in-region long-distance authority.